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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,886	10/09/2003	Michael James Pierro	GETS1929/US36	9579

22875   7590   06/07/2004

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EXAMINER
LE, JOHN H

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	**Applicant(s)**
Office Action Summary	10/681,886	PIERRO ET AL.
	Examiner	**Art Unit**	
	John H Le	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>08 October 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>01/12/2004</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 1-10 are rejected under the judicially created doctrine of obviousness-

type double patenting as being unpatentable over claims 1-4 of U.S. Patent No.

6,647,356 in view of in view of Smith et al. (USP 5,931,877) as follows:

U.S. Patent No. 6,647,356

1. A method of reducing the shop time of locomotives at a locomotive maintenance facility comprising: providing data gathering systems onboard a locomotive and a computer at a remote locomotive maintenance facility, said computer having a historical data base of locomotive system data on a plurality of similar locomotives, said locomotive system data being selected from the group consisting of ambient air temperature, train notch, total track and force power, total voltage, total amps, software versions, engine RPM, engine temperature, crankcase pressure, dynamic braking, battery voltage, and voltage and amperage for all auxiliary motors; obtaining onboard locomotive systems data with said onboard data gathering systems during operation of said locomotive, prior to arrival of said locomotive at said locomotive maintenance facility for scheduled maintenance; transmitting said onboard systems data via wireless communications to said maintenance facility prior to arrival of said locomotive at said maintenance facility; operating said computer at said maintenance facility, prior to arrival of said locomotive at said maintenance facility, to compare said onboard system data with said historical data base to determine whether any of said onboard system data is out of a predetermined range or is within said predetermined range, but exhibiting a trend toward being out of said range; operating said computer at said maintenance facility, prior to arrival of said locomotive at said maintenance facility, to assign at least one fault code corresponding to at least one system fault based on said onboard systems data being either out of said range or exhibiting a trend toward being out of said range, said at least one fault code being selected from the group consisting of overcurrents, flashovers, crankcase overtemperatures, crankcase overpressures, communication failures, electrical around failures, air conditioner converter failures, propulsion system faults, auxiliary system faults, propulsion motor faults, auxiliary motor faults, auxiliary system charging faults, engine cooling system faults, oil system faults, control wiring faults, and microelectronics faults; and operating said computer at said maintenance facility, prior to arrival of said locomotive at said maintenance facility, to determine any maintenance and repair operations to be performed when said inbound locomotive arrives at said maintenance facility, in response to said at least one fault code.

2. The method recited in claim 1, further comprising operating said computer at said maintenance facility, prior to arrival of said locomotive at said maintenance facility, to classify each said maintenance and repair operation into a classification selected from the group consisting of required, advisable, and optional operations.

3. The method recited in claim 1, wherein said onboard systems data is determined to be within said predetermined range, but exhibiting a trend toward being out of range by comparing a series of values for a given parameter over a period of time.

4. The method recited in claim 1, wherein said historical data base is comprised, at least in part, of data collected from prior downloads of onboard systems data.

Instant application

1. A method of reducing the shop time of locomotives at a locomotive maintenance facility comprising: providing data gathering systems onboard a locomotive and a historical data base of locomotive system data on a plurality of similar locomotives, said data base being stored off-board of said locomotive, and said locomotive system data being selected from the group consisting of ambient air temperature, train notch, total track and force power, total voltage, total amps, software versions, engine RPM, engine temperature, crankcase pressure, dynamic braking, battery voltage, and voltage and amperage for all auxiliary motors; obtaining onboard locomotive systems data with said onboard data gathering systems during operation of said locomotive, prior to arrival of said locomotive at a locomotive maintenance facility for scheduled maintenance; transmitting said onboard systems data via wireless communications to a remote data center prior to arrival of said locomotive at said maintenance facility; prior to arrival of said locomotive at said maintenance facility, comparing said onboard system data with said historical data base to determine whether any of said onboard system data is out of a predetermined range or is within said predetermined range, but exhibiting a trend toward being out of said range; prior to arrival of said locomotive at said maintenance facility, assigning at least one fault code corresponding to at least one system fault based on said onboard systems data being either out of said range or exhibiting a trend toward being out of said range, said at least one fault code being selected from the group consisting of overcurrents, flashovers, crankcase overtemperatures, crankcase overpressures, communication failures, electrical ground failures, air conditioner converter failures, propulsion system faults, auxiliary system faults, propulsion motor faults, auxiliary motor faults, auxiliary system charging faults, engine cooling system faults, oil system faults, control wiring faults, and microelectronics faults; prior to arrival of said locomotive at said maintenance facility, determining any maintenance and repair operations to be performed when said inbound locomotive arrives at said maintenance facility, in response to said at least one fault code; and communicating said determination of maintenance and repair operations to said maintenance facility before said locomotive arrives at said maintenance facility.

2. The method recited in claim 1, further comprising classifying each said maintenance and repair operation into a classification selected from the group consisting of required, advisable, and optional operations, prior to arrival of said locomotive at said maintenance facility.

3. The method recited in claim 1, wherein said onboard systems data is determined to be within said predetermined range, but exhibiting a trend toward being out of range, by comparing a series of values for a given parameter over a period of time.

4. The method recited in claim 1, wherein said historical data base is comprised, at least in part, of data collected from prior downloads of onboard systems data.

5. The method recited in claim 1, wherein said remote data center is located at said remote maintenance facility.

Art Unit: 2863

<table>
<tr><th>U.S. Patent No. 6,647,356</th><th>Instant application</th></tr>
</table>

U.S. Patent No. 6,647,356

1. A method of reducing the shop time of locomotives at a locomotive maintenance facility comprising: <u>providing data gathering systems onboard a locomotive and a computer at a remote locomotive maintenance facility, said computer having a historical data base of locomotive system data on a plurality of similar locomotives</u>, said locomotive system data being selected from the group consisting of ambient air temperature, train notch, total track and force power, total voltage, total amps, software versions, engine RPM, engine temperature, crankcase pressure, dynamic braking, battery voltage, and voltage and amperage for all auxiliary motors; <u>obtaining onboard locomotive systems data with said onboard data gathering systems during operation of said locomotive</u>, prior to arrival of said locomotive at said locomotive maintenance facility for scheduled maintenance; <u>transmitting said onboard systems data via wireless communications to said maintenance facility</u> prior to arrival of said locomotive at said maintenance facility; <u>operating said computer at said maintenance facility</u>, prior to arrival of said locomotive at said maintenance facility, <u>to compare said onboard system data with said historical data base</u> to determine whether any of said onboard system data is out of a predetermined range or is within said predetermined range, but exhibiting a trend toward being out of said range; <u>operating said computer at said maintenance facility</u>, prior to arrival of said locomotive at said maintenance facility, to assign at least one fault code corresponding to at least one system fault based on said onboard systems data being either out of said range or exhibiting a trend toward being out of said range, said at least one fault code being selected from the group consisting of overcurrents, flashovers, crankcase overtemperatures, crankcase overpressures, communication failures, electrical around failures, air conditioner converter failures, propulsion system faults, auxiliary system faults, propulsion motor faults, auxiliary motor faults, auxiliary system charging faults, engine cooling system faults, oil system faults, control wiring faults, and microelectronics faults; <u>and operating said computer at said maintenance facility</u>, prior to arrival of said locomotive at said maintenance facility, to determine any maintenance and repair operations to be performed when said inbound locomotive arrives at said maintenance facility, in response to said at least one fault code.

2. The method recited in claim 1, further comprising <u>operating said computer at said maintenance facility</u>, prior to arrival of said locomotive at said maintenance facility, to classify each said maintenance and repair operation into a classification selected from the group consisting of required, advisable, and optional operations.

3. The method recited in claim 1, wherein <u>said onboard systems data is determined to be</u> within said predetermined range, but exhibiting a trend toward being out of range by comparing a series of values for a given parameter over a period of time.

4. The method recited in claim 1, wherein said historical data base is comprised, at least in part, of data collected from prior downloads of onboard systems data.

Instant application

6. A system for reducing the shop time of locomotives at a locomotive maintenance facility comprising: <u>a plurality of data gathering systems onboard a locomotive, said data gathering systems being adapted to obtain onboard locomotive systems data during operation of said locomotive</u>, prior to arrival of said locomotive at a locomotive maintenance facility for scheduled maintenance; <u>a computer off-board of said locomotive, said computer storing a historical data base of locomotive system data on a plurality of similar locomotives</u>, said locomotive system data being selected from the group consisting of ambient air temperature, train notch, total track and force power, total voltage, total amps, software versions, engine RPM, engine temperature, crankcase pressure, dynamic braking, battery voltage, and voltage and amperage for auxiliary motors; <u>a wireless communication system, said wireless communication system being adapted to transmit said onboard systems data to a remote data center</u> prior to arrival of said locomotive at said maintenance facility; <u>data comparison software adapted to compare said onboard system data with said historical data base</u> prior to arrival of said locomotive at said maintenance facility, to determine whether any of said onboard system data is out of a predetermined range or is within said predetermined range, but exhibiting a trend toward being out of said range; <u>fault code assignment software adapted to assign, prior to arrival of said locomotive at said maintenance facility</u>, at least one fault code corresponding to at least one system fault based on said onboard systems data being either out of said range or exhibiting a trend toward being out of said range, said at least one fault code being selected from the group consisting of overcurrents, flashovers, crankcase overtemperatures, crankcase overpressures, communication failures, electrical ground failures, air conditioner converter failures, propulsion system faults, auxiliary system faults, propulsion motor faults, auxiliary motor faults, auxiliary system charging faults, engine cooling system faults, oil system faults, control wiring faults, and microelectronics faults; <u>and diagnostic software adapted to determine</u>, prior to arrival of said locomotive at said maintenance facility, any maintenance and repair operations to be performed when said inbound locomotive arrives at said maintenance facility, in response to said at least one fault code; <u>wherein said wireless communication system is adapted to transmit said determination of maintenance and repair operations to said remote data center prior to arrival of said locomotive at said maintenance facility.</u>

7. The system recited in claim 6, further comprising <u>classification software adapted</u> to classify each said maintenance and repair operation into a classification selected from the group consisting of required, advisable, and optional operations, prior to arrival of said locomotive at said maintenance facility.

8. The system recited in claim 6, <u>wherein said data comparison software determines that</u> said onboard systems data is within said predetermined range, but exhibiting a trend toward being out of range, by comparing a series of values for a given parameter over a period of time.

9. The system recited in claim 6, wherein said historicaldata base is comprised, at least in part, of data collected from prior downloads of onboard systems data.

10. The system recited in claim 6, <u>wherein said remote data center is located at said remote maintenance facility.</u>

Regarding claims 1-10, claims 1-4 of U.S. Patent No. 6,647,356 discussed supra, discloses the claimed invention except a remote data center for receiving onboard systems data, which is located at maintenance facility.

Smith et al. teach a remote data center for receiving onboard systems data, which is located at maintenance facility (e.g. Col.3, lines 37-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to inform a remote data center for receiving onboard systems data, which is located at maintenance facility as taught by Smith et al. in a system for reducing the shop time of locomotives at a locomotive maintenance facility of U.S. Patent No. 6,647,356 for the purpose of providing remote trouble-shooting and technical data access capabilities to technicians through a wireless link between a handheld point-of-maintenance transceiver and a central diagnostics center, thereby minimizing maintenance and repair time, costs and requisite paper reference materials (Smith et al., Col.1, lines 6-13).

Contact Information

3.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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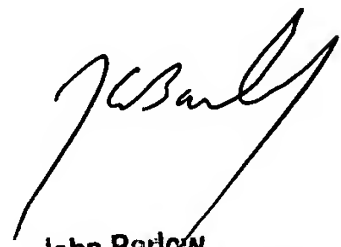
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John H. Le

Patent Examiner-Group 2863

May 28, 2004

John Barlow
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